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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/608,521

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Raju C. Bopardikar

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11/15/2010

LAW OFFICES OF PAUL E. KUDIRKA

40 BROAD STREET

SUITE 300

BOSTON, MA 02109

EXAMINER

MIRZA, ADNAN M

ART UNIT

PAPER NUMBER

2443

NOTIFICATION DATE

DELIVERY MODE

11/15/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

**Application No.**

09/608,521

**Applicant(s)**

BOPARDIKAR ET AL.

**Examiner**

ADNAN MIRZA

**Art Unit**

2443

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 9-11, 44-49 and 52-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-11, 44-49 and 52-54 is/are rejected.
- 7) ☐ Claim(s) 7, 8, 50 and 51 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### DETAILED ACTION

1. In view of the Appeal filed on 07/27/2010, PROSECUTION IS HEREBY REOPENED. As set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

**/Tonia LM Dollinger/**

**Supervisory Patent Examiner, Art Unit 2443**

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

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*Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1,3-11,44 and 46-54 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-48 of U.S. Application No. 11384779.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they contain the following commons subject matters:

Instant application: 09608521	U.S. Application 11384779
<p><b>Claim 1.</b> Apparatus for providing high-performance, scale able data storage services to a client from a plurality of storage devices, comprising: an access interface module which receives from the client data storage requests, each including a data object to be stored and a data object identifier that identifies that data object and, in response to each storage request and based on a workload and on relative demands placed on</p>	<p><b>Claim 1.</b> A disk-based storage system for providing high-performance, scale able storage services to a client from a plurality of disks, comprising a disk interface module connected to the plurality of disks for controlling data stored on the plurality of disks; a host interface module which receives requests for storage service from the client, <b>each storage service request</b></p>

subsets of the plurality of storage devices instead of a physical location in the plurality of storage devices, dynamically selects a subset of the plurality of storage devices in which the data is stored so that data corresponding to the same data object identifier can be transferred to different physical storage device locations from request to request in order to dynamically distribute the workload across the plurality of storage devices; and a switch fabric for temporarily connecting the access interface module to the selected subset of the plurality of storage devices so that the data can be transferred to the selected subset of storage devices.	<b>including a data object to be stored and a data object identifier that identifies that data object and, in response to each storage service request and based on a workload and on relative demands placed on subsets of the plurality of disks instead of a physical location in the plurality of disks, selects a subset of the plurality of disks to provide the requested storage and so that data corresponding to the same data object identifier can be transferred to different physical disk locations from request to request in order to distribute the workload across the plurality of disks; and a switch fabric for temporarily connecting the host interface module to the resource module for providing the storage service to the client.</b>
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Therefore, it would have been obvious to one having ordinary skill in the art at the time the rejection was made each including a data object to be stored and a data object

identifier that identifies that data object and, in response to each storage request and based on a workload and on relative demands placed on subsets of the plurality of storage devices instead of a physical location in the plurality of storage devices, dynamically selects a subset of the plurality of storage devices in which the data is stored so that data corresponding to the same data object identifier can be transferred to different physical storage device locations from request to request in order to dynamically distribute the workload across the plurality of storage devices; and a switch fabric for temporarily connecting the access interface module to the selected subset of the plurality of storage devices so that the data can be transferred to the selected subset of storage devices.

### ***Claim Objections***

3. Claims 7-8 and 50-51 are objected.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 9-11,44-49,52-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (6,195,703) and further in view of Muller et al (U.S. 5,909,686).

As per claims 1,44 Blumenau disclosed apparatus for providing high-performance, scaleable data processing and storage services to a client from a plurality of resources, comprising an access interface module which receives from the client data storage requests, each including (col. 12, lines 26-33), data object to be stored and a data object identifier that identifies that data object and in response to each storage request and based on a workload and on relative demands placed on subsets of the plurality of storage devices instead of a physical location of each of the plurality of storage devices dynamically selects a subset of the plurality of storage devices in which the data is transferred to be stored and so that data corresponding to the same data identifier can be transferred to different physical storage device locations from request to request in order to dynamically distribute the workload across the plurality of device (col. 2, lines 5-21); One ordinary skill in the art at the time of the invention knows that "routing information based on the loading characteristic of the storage access request received at the switch inputs in order to balance loading of the storage access requests upon the outputs of the switch" is prime example of load balancing, Where the routing information is based on the loading characteristic of the meaning workload of the memory.

However Blumenau fails to disclose a switch fabric for temporarily connecting the access interface module to the selected subset of the plurality of storage devices so that the data can be transferred to the selected subset of storage devices.

In the same field of endeavor Muller discloses, The switch fabric includes a memory access interface configured to arbitrate accesses to a forwarding database memory. The switch fabric also includes a search engine couple to the memory access interface and to engine coupled to the memory access interface and multiple input ports. The switch fabric includes command execution logic that is configured to interface with the processor for performing forwarding database accesses requested by the processor (col. 2, lines 18-28).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated the switch fabric includes a memory access interface configured to arbitrate accesses to a forwarding database memory. The switch fabric also includes a search engine couple to the memory access interface and to engine coupled to the memory access interface and multiple input ports. The switch fabric includes command execution logic that is configured to interface with the processor for performing forwarding database accesses requested by the processor as taught by Muller in the method and system of Blumenau to optimize the switching and forwarding capability by optimizing the work load.



5. As per claims 3,46 Blumenau -Muller disclosed wherein the switch fabric comprises a control switch fabric for transferring control information and a separate data switch fabric for transferring data (Blumenau, col. 2, lines 7-19).
6. As per claims 4,47 Blumenau -Muller disclosed wherein the control switch fabric is optimized for transferring control information and the data switch fabric is optimized for transferring data (Blumenau, col. 2, lines 29-41).
7. As per claims 5,48 Blumenau -Muller disclosed wherein the request for storage includes control information and data and wherein the access interface module separates the control information and the data and transfers the data to the selected subset of storage devices over the data switch fabric (Blumenau, col. 6, lines 44-53).
8. As per claims 6,49 Blumenau -Muller disclosed wherein the data switch fabric comprises a none blocking crossbar switch for data transfer and the control switch fabric comprises an Ethernet switch for control information transfer (Muller, col. 4, lines 1-23).
9. As per claims 9,52 Blumenau -Muller disclosed wherein the access interface module selects a subset of the plurality of storage devices based on the pre-allocation information (Blumenau, col. 2, lines 5-21).

10. As per claims 10,53 Blumenau -Muller disclosed wherein the access interface module comprises a data memory which temporarily stores information transferred between the access interface module and the selected subset of the plurality of rstorage devices (Blumenau, col. 5, lines 49-57).

11. As per claims 11,54 Blumenau -Muller disclosed further comprising a plurality of access interface modules each access interface module receiving storage requests from a plurality of clients (Muller, col. 5, lines 6-19).

12. **Examiner's notes:** Examiner has cited particular columns and line numbers in the reference(s) applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-6, 9-11, 44-49, 52-54 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADNAN MIRZA whose telephone number is (571)272-3885. The examiner can normally be reached on business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tonia Dollinger can be reached on 571-272-4170. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/ADNAN MIRZA/

Examiner, Art Unit 2443